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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
YUKINO OWAKI, ET AL.	: EXAMINER: GOLLAMUDI, S.
SERIAL NO: 09/786,370	:
FILED: MARCH 15, 2001	: GROUP ART UNIT: 1616
FOR: TAPE MATERIAL FOR TRANSCUTANEOUS ABSORPTION	:

DECLARATION UNDER 37 C.F.R. § 1.132

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Now comes Hidenori Ono who deposes and states:

1. I am familiar with the invention in the above-identified application.

2. I am a graduate of Graduate School of Engineering, Kumamoto University and received my Engineering Master degree in the year 1994.

3. I ~~have~~ had been employed by YUTOKU PHARMACEUTICAL CO., LTD ~~since~~ from 1994 to 2003 and I ~~have~~ had ~~been conducting~~ conducted research in the field of transdermal therapeutic system for 9 years. (I have worked for SANWA KAGAKU KENKYUSHO CO., LTD since 2003.) H.O August. 9. 2004

4. I have reviewed and understood the contents of JP10-147521 which is cited by the Examiner as prior art against the claims of the above-identified application. In order to provide a side-by-side comparison of compositions which meet the present claim limitations against a composition which is disclosed in JP10-147521, the following experiments were carried out by me or under my direct supervision and control. H.O August. 9. 2004

An experiment was conducted to compare the invention disclosed in Example 2 of the subject application (09/786,370) with the invention disclosed in JP 10-147521. The results will be reported hereinafter.

1. Production of preparations to be tested

In accordance with the formulation shown below, the butyl-rubber-containing tape preparation of Example 2 disclosed in the specification of the subject application (hereinafter referred to as invention preparation), the tape preparation (not containing butyl rubber) of Example 2 disclosed in JP 10-147521 (hereinafter referred to as D1 preparation), and the preparation similar to the first-mentioned preparation except for the exclusion of butyl rubber (hereinafter referred to as comparative preparation) were produced. Using them, the following test was conducted.

[Table A]

	Invention preparation	D1 preparation	Comparative preparation
Lidocaine	10	10	10
SIS	25	25	25
Butyl rubber	5	0	0
Alicyclic saturated hydrocarbon resin	31	50	31
Liquid paraffin	24	15	24
zinc oxide	5	0	5
Antioxidant	0.1	0.1	0.1

* The invention preparation contains zinc oxide which is not contained in the D1 preparation; a comparative preparation similar to the invention preparation except for the exclusion of butyl rubber (i.e., contains zinc oxide) was provided. Due to provision of the

comparative preparation, it was possible to obtain much explicit result of evaluation based on solely the difference in the butyl rubber content.

2. Applicability test

An applicability test was conducted on healthy adults (n=20). The preparations were each applied to the lateral region of the chest, which is a region showing relatively great movements. Upon elapsed times of 24 hours, 48 hours and 72 hours after the application, the preparations were observed for their conditions of adhesion. The results are shown in Table 1.

(Results)

[Table 1]

	Number of persons (out of 20) showing the conditions of adhesion defined below								
	12 hours after application			48 hours after application			72 hours after application		
	No turn up	Slight turn up	Dropping	No turn up	Slight turn up	Dropping	No turn up	Slight turn up	Dropping
Invention preparation	20	0	0	20	0	0	18	2	0
D1 preparation	20	0	0	10	6	4	0	9	11
Comparative preparation	20	0	0	10	5	5	0	8	12

As is obvious from Table 1, each of the invention preparation, the D1 preparation, and the comparative preparation remained satisfactorily adhering on the skin after 24 hours. At the 48th hour, however, the D1 preparation and the comparative preparation had already begun to undergo turn up or dropping. The invention preparation, on the other hand, did not undergo dropping even after 72 hours and only slight turn up was observed. The invention preparation, therefore, had good applicability. Incidentally, the invention preparation scarcely showed skin irritation.

3. Stratum corneum abrasion test

Each preparation produced in Item 1 was examined for stratum corneum abrading property by applying it to the upper arm of each of normal subjects (n=5) and peeling it off 3 hours after the application. Each preparation removed was transcribed onto a measurement tape and, after washing with ethanol for defatting, the stratum corneum was stained with a staining solution, followed by immersion in an aqueous solution of sodium dodecyl sulfate. The amount of the eluted staining substance was measured based on the absorbance data. Since the absorbance is proportional to the amount of stratum corneum adhering on the preparation removed, the absorbance was regarded as the amount of stratum corneum abraded. The results are shown in Table 2.

[Table 2]

Tested preparation	Amount of abraded stratum corneum (absorbance Abs/mL)
Invention preparation	0.130
D1 preparation	0.200
Comparative preparation	0.195

As is evident from Table 2, the invention preparation with butyl rubber added therein was confirmed to be smaller in the amount of abraded stratum corneum than the D1 preparation and the comparative preparation.

6. The undersigned petitioner declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under

Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing therefrom.

7. Further deponent saith not.

Hidenori Ono
Signature

August 9. 2004
Date

COPY

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PF-990004-WO	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/JP99/04905	International filing date (*day/month/year*) 09 September 1999 (09.09.99)	Priority date (*day/month/year*) 05 October 1998 (05.10.98)
International Patent Classification (IPC) or national classification and IPC A61K 9/70, 47/34, 31/165, 31/245, 31/49, 31/445, A61P 17/00, 17/12		
Applicant YUTOKU PHARMACEUTICAL IND. CO. LTD.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
06 April 2000 (06.04.00)	19 December 2000 (19.12.2000)
Name and mailing address of the IPEA/JP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP99/04905

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed

☐ the description:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the claims:

pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the drawings:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the sequence listing part of the description:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP99/04905

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-9	YES
	Claims		NO
Inventive step (IS)	Claims	1-9	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims		NO

2. Citations and explanations

The following documents were cited in the international search report.

Document 1: JP, 10-147521, A
Document 2: JP, 10-95729, A

Document 1 describes an adhesive preparation for alleviation of prolonged pain that contains "a styrene-isoprene-styrene block copolymer," "an alicyclic unsaturated hydrocarbon resin," "liquid paraffin," and "a topical anesthetic," but it does not describe a preparation that includes butyl rubber.

Document 2 describes an adhesive preparation that contains butyl rubber.

A comparison of the invention described in document 1 and the invention set forth in the claims of this application shows that the former differs from the latter in the fact that it does not contain butyl rubber.

A further investigation concerning this difference shows that, as described in document 2, because butyl rubber is normally used as an adhesive base by persons skilled in the art in the technical field of adhesive preparations, constituting the invention set forth in Claims 1-9 by formulating butyl rubber into the invention described in document 1 is obvious.

However, in light of the Certification of Experimental Results attached to the applicant's written reply dated 21 June 2000, the addition of butyl rubber to the formulation has the effect of minimizing the amount of corneal peeling, and this effect is not obvious to persons skilled in the art.

Therefore, the invention set forth in Claims 1-9 appears to be novel and appears to involve an inventive step with respect to the above documents.

The invention set forth in Claims 1-9 also appears to have industrial applicability.